



Functional Testing

[February-March 2024]

## **Functional Testing Report for Expense Guru Application**

SRH Hochschule Heidelberg

Faculty for Information, Media & Design

Degree: M.Sc. Applied Computer Science

**Under the guidance of:**

Prof. Peter Dillinger

Prof. Gunjan Kadu

By

**Chaithra Jagannatha Rao Telkar**

**Vindhya K. Hegde**

**Kumar Sardiwal, Kamal**

**Zope, Vipul Pramod**

The "Expense Guru" web application simplifies monthly expense management by automating calculations and presenting data through an intuitive interface. Users can add their income and category to generate comprehensive expense reports showcased on a user-friendly dashboard. With predictive tools for income and expenses, users can plan their finances effectively by Monthly Budget Plans page . The application facilitates various tasks such as adding, deleting, and updating expenses, as well as setting monthly budgets and managing categories. Additionally, users have the capability to access custom reports tailored to their needs. This level of control empowers users to efficiently manage their finances and make informed decisions. Overall, "Expense Tracker" provides a robust platform for optimizing financial strategies and achieving greater financial stability.

## **I. Functional Testing**

A functional test case is a set of instructions that describe how to test a specific function in a software application. It outlines the steps to take, the expected results, and the preconditions that must be in place before the test can be run.

When writing functional test cases, it's crucial to identify input conditions, expected outcomes, and the steps to execute the test. Clear documentation helps testers, developers, and other stakeholders understand the testing process and results.

Functional test cases contribute to the overall quality assurance process by systematically addressing various functionalities and helping deliver reliable and error-free software to end-users.

### **Methodology Used to Perform Functional Testing:**

In our functional testing methodology, we organized scenarios into two categories: favorable and suboptimal. Favorable scenarios entail successful actions by users, including adding expenses, monthly budget plans, categories, and viewing them seamlessly within the system. On the other hand, suboptimal situations present unfavourable scenarios but highlight unique features of our application. For instance, our application's uniqueness is underscored by constraints such as the requirement to establish a monthly budget plan before adding expenses, a restriction on users to create only one budget plan per month, imposition of limits on category amounts that surpass monthly income, and the prevention of duplicate category entries during input in the monthly budget plan. Through this approach, we aim to thoroughly assess both the typical functionality and exceptional features of our application, ensuring a robust and user-centric experience.

## II. Functional Test Cases

### 1. Manage Expenses:

#### Test Case 1: Insert Expense

Test Steps:

- Navigate to the application.
- Go to the expense section.
- Add a new expense entry with specific details (amount, category, date, etc.).

Expected Result: The expense should be successfully added to the system.

#### Test Case 2: Update Expense

Test Steps:

- Navigate to the expense section.
- Select an existing expense entry and modify its details.
- Expected Result: The expense details should be updated accordingly in the system.

#### Test Case 3: Delete Expense

Test Steps:

- Navigate to the expense section.
- Select an existing expense entry and delete it.
- Expected Result: The expense should be successfully removed from the system.

#### Test Case 4: View Expenses

Test Steps:

- Navigate to the expense section.
- Check if all existing expenses are displayed correctly.
- Expected Result: All expenses should be listed with accurate details.

### 2. Manage Categories:

#### Test Case 1: Insert Categories

Test Steps:

- Navigate to the application.
- Go to the Categories section.
- Add a new Categories entry with specific details (name and description)

Expected Result: The expense should be successfully added to the system.

#### Test Case 2: View Categories

Test Steps:

- Navigate to the Categories section.
- Check if all existing Categories are displayed correctly.
- Expected Result: All Categories should be listed with accurate details.

### 3. Planning Monthly Budget:

#### **Test Case 1: Insert Monthly Budget Plan**

Test Steps:

- Navigate in to the application.
- Navigate to the budget planning section.
- Add a new monthly budget plan with specific allocations for different categories, Monthly Income and Date.
- Expected Result: The monthly budget plan should be successfully added to the system with message popping Budget added.

#### **Test Case 2: Add Multiple Categories specific to Monthly Budget:**

Test Steps:

- Navigate in to the application.
- Navigate to the budget planning section.
- Add multiple categories to the monthly budget plan.
- Expected Result: All selected categories should be included in the monthly budget plan with accurate allocations.

### 4. Custom Reports Displayed in Dashboard

Test Steps:

- Navigate to the dashboard section.
- Current month and year is selected by default. Change them to desired month and year to view the analytics of that respective month and year.
- Expected Result:
  - Donut chart shows allocation of budget. Click on a specific category to see a drilldown of utilized and balance amount.
  - Bar chart shows the expenses of previous 6 months.
  - Top 5 highest expenses added in the month will be shown.

#### **Few application specific conditions to test:**

- The User cannot add Expenses Before adding Monthly Budget Plan
- User can add one Budget Plan to add per month.
- Users are restricted from entering category amounts that surpass their monthly income.

## Functional Test Cases:

Feature	Test Case Description	Pre-conditions	Test Steps	Expected Results	Pass/Fail Criteria
Add Monthly Budget	Add Monthly Budget	User can plan monthly budget with unique categories and amount allocation	1.In Application go to Monthly Budget Page 2. Fill All required Values 3. And Submit	After Submitting, a pop up message will be displayed, budget added	Pass only if total of amount allocated to all the categories doesn't exceed monthly income specified
Insert Expenses	Adding amount spent on particular category	User can add expenses	1.In Application go to expenses Page 2. Fill All required Values 3. And Submit	After Submitting , a pop up message will be displayed, Expenses added	Will be able to add expenses only when the budget is planned for the month
Update Expenses	Update amount spent on particular category	User can update expenses	1.In Application go to expenses Page 2. Update required Values 3. And Submit	After Submitting , a pop up message will be displayed, Expenses Updated	Successful
Delete Expenses	Delete amount spend on particular category	User can able to Delete expenses	1.In Application go to expenses Page 2. Delete required Expense row	The row get deleted	Successful

			3. And Submit		
View Expenses	View all Users Expenses in Tabular Formate	User can able to View all his Expenses in Tabular Formate of all Histories	1.In Application go to expenses Page 2. can able see Expenses Table	All Data Viewed	Successful
Dashboard	comprehensive expense reports showcased on a user-friendly dashboard	User can able to view comprehensive expense reports on Expenses on Monthly/Yearly showcased on a user-friendly dashboard	Open the application. 1. Change the month and year input 2. Respective budget allocation details should be shown in Donut Chart 3. On clicking particular category on donut, a drilldown of utilized and balance amount should be shown. 4. Top 5 highest expenses added for the selected month and year will be shown. 5. A bar chart which	Report Viewed	Successful

			shows the summary of expenses of previous 6 months.		
Insert Categories	Adding categories to customise the budget plan	User can add categories that he wants to include in his budget plan	1.In Application go to Categories Page 2. Fill All required Values 3. And Submit	After Submitting , a pop up message will be displayed, Categories added	Successful
View Category	View all Users Category in Tabular Format	User can view all his Category in Tabular Format	1.In Application go to Category Page 2. Categories will be shown	Categories displayed	Successful

### III. Conclusion

In summary, our functional testing methodology effectively categorizes scenarios into favorable and suboptimal categories, enabling comprehensive assessment of both typical and exceptional functionalities. Through the identification of unique features such as enforcing budget plans before adding expenses and preventing duplicate category entries, coupled with a dashboard for insightful expense and budget plan management, we have established a robust and user-centric application experience.

Following rigorous testing, all test cases have been successfully executed, and the application is behaving as expected. This validates the reliability and functionality of the application, ensuring its readiness for deployment and user satisfaction.